

one layer of material that is substantially non-reflective. By locating the substantially non-reflective material such that it faces a user of the capacitive sensing device, it optically obscures from the user any reflective materials included as part of the first metal layer that will eventually become conductive traces.

[0049] At operation 606 of FIG. 6, the first metal layer is patterned above the substantially transparent substrate. It is appreciated that the patterning of the first metal layer may be performed at operation 606 in diverse ways. For example, the patterning of the first metal layer can include, but is not limited to, process 400. Furthermore, the patterning of the first metal layer can include, but is not limited to, a lithographic process, a printing process, electron beam lithography, screen printing, inkjet printing, offset printing, electroplating, stamping, and LIGA. Furthermore, the patterning of the first metal layer can include patterning a landing pad region above the substantially transparent substrate to enable coupling of one or more sensing circuit components to the substantially transparent substrate.

[0050] The patterning of the first metal layer at operation 606 forms a first set of conductive traces that are part of the capacitive sensing device. The first set of conductive traces may be implemented in diverse ways. For example, each of the first set of conductive traces can have a width such that the capacitive sensing device does not have to be arranged with respect to an underlying image in order to avoid deleterious obstruction of that underlying image by these conductive traces. The underlying image is separate from the capacitive sensing device. Additionally, the capacitive sensing device is fabricated separately from active components of an information display device. The first set of conductive traces can also be patterned such that each of them has a width less than approximately 12 micrometers. Alternatively, the first set of conductive traces can be patterned such that each of them has a width that does not require them to be formed of a substantially transparent material. Each of the first set of conductive traces can also be implemented with a width less than a pixel width of the underlying image. Also, each of the first set of conductive traces can be a capacitive sensing element. The first set of conductive traces at operation 606 is not limited in any way to these embodiments.

[0051] At operation 608 of FIG. 6, a first substantially transparent insulating material layer is deposited above the first set of conductive traces and the substantially transparent substrate. The substantially transparent insulating layer may be implemented in diverse ways. For example, at operation 610, a deposition of a dielectric material (e.g., SiO₂, Spin-On-Glass, and the like) can be the first substantially transparent insulating layer. The first insulating layer may be deposited at operation 608 to cover and insulate the first set of conductive traces or it may be deposited to cover and insulate one or more portions of the first set of conductive traces.

[0052] At operation 610, a second metal layer is deposited above the first substantially transparent insulating layer and the substantially transparent substrate. It is understood that the deposition of the second metal layer can be implemented in a wide variety of ways. For example, the deposition of the second metal layer can be implemented in any manner similar to that described herein with reference to the deposition at operation 604 of the first metal layer.

[0053] At operation 612 of FIG. 6, the second metal layer is patterned above the first substantially transparent insulating layer. It is appreciated that the patterning of the second metal layer may be performed at operation 612 in diverse ways. For example, the patterning of the second metal layer can be implemented in any manner similar to that described herein with reference to the patterning at operation 606 of the first metal layer. However, it is noted that the patterning mask of the second metal layer may be different from the patterning mask of the first metal layer. Additionally, if the patterning mask for the first metal layer dictated a set of traces substantially aligned along the horizontal axis, then the patterning mask for the second metal layer can dictate a set of traces substantially aligned along the vertical axis. It is appreciated that the patterning at operation 612 of the second metal layer forms a second set of conductive traces. As such, the second set of conductive traces can be implemented in any manner similar to that described herein with reference to the first set of conductive traces at operation 606. Moreover, the second set of conductive traces can be patterned at operation 606 such that they are substantially orthogonal to the first set of conductive traces.

[0054] At operation 614, a second substantially transparent insulating material layer is deposited above the second set of conductive traces and the first substantially transparent insulating layer. It is noted that the second substantially transparent insulating layer can act as a protective layer for the second set of conductive traces. Additionally, the second substantially transparent insulating layer can provide the second set of conductive traces electrical insulation from the outside world. The deposition of the second substantially transparent insulating layer at operation 614 can be an optional operation. The deposition of the second substantially transparent insulating layer at operation 614 may be implemented in diverse ways. For example, the deposition of the second substantially transparent insulating layer can be implemented in any manner similar to that described herein with reference to the deposition at operation 608 of the first substantially transparent insulating layer.

[0055] At operation 616 of FIG. 6, at least one of the first and second substantially transparent insulating layers is patterned above portions of the first and second sets of conductive traces in order to form pads where electronics of the capacitive sensing device can be coupled to the conductive traces. Furthermore, test pads can be formed outside of the sensing area of the capacitive sensing device to enable verification of the integrity of each conductive trace. It is appreciated that the patterning of the substantially transparent insulating layer(s) at operation 616 can be implemented in a wide variety of ways. For example, the patterning of the substantially transparent insulating layer(s) at operation 616 can be implemented in any manner of patterning similar to that described herein. It is noted that the patterning of the substantially transparent insulating layer(s) at operation 616 may include an etching process. For example, an etching at operation 616 of the substantially transparent insulating layer(s) can include a wet buffered hydrogen fluoride (HF) etchant. If this etching of the substantially transparent insulating layer(s) at operation 616 is above a titanium layer of either the first and/or second set of conductive traces, the titanium layer acts as an etch stop for the buffered hydrogen fluoride etchant. Therefore, the titanium layer is able to protect the other material layers (if any) of the first and/or second set of conductive traces.